

WHAT IS CLAIMED IS:

1. An information processing apparatus comprising:
creating means for creating file names which represent a map each and which are constituted each by an identification code for identifying a map structure of a given area; by a level code for denoting a scale level of the map; and by unit codes for indicating which part of said area is covered by said map;

reading means for reading map data managed in terms of said file names created by said creating means; and

display controlling means for controlling display of maps based on said map data read out by said reading means.

2. An information processing apparatus according to claim 1, wherein a wide area is covered by a plurality of variations of said map structure.

3. An information processing apparatus according to claim 1, wherein, if a scroll operation is designated to bring about scrolling from a first map of which display is controlled by said display controlling means, to a second map adjacent to said first map and having the same scale level as said first map, then said creating means creates a file name of a third map in a map structure different from said map structure including

said first map and said second map.

4. An information processing apparatus according to claim 1, wherein, if a display changeover is designated to bring about a transition of display from a first map of which display is controlled by said display controlling means, to a second map having a scale level different from that of said first map, then said creating means creates a file name of said second map in a map structure different from said map structure including said first map.

5. An information processing apparatus according to claim 1, wherein said map data include header information which at least comprises a longitude and a latitude of each of four corners of the map displayed on the basis of said map data.

6. An information processing apparatus according to claim 1, wherein, if a scroll operation is designated to bring about scrolling from a first map of which display is controlled by said display controlling means, to a second map adjacent to said first map and having the same scale level as said first map, then said creating means creates a file name of said second map by either incrementing or decrementing by 1 a value in a bit position corresponding to said level code in each of said

unit codes.

7. An information processing apparatus according to claim 1, wherein, if a zoom-out operation is designated to bring about a transition of display from a first map of which display is controlled by said display controlling means, to a second map on a smaller scale including a specific part of said first map, then said creating means creates a file name of said second map by masking a value in a bit position corresponding to said level code in each of said unit codes; and wherein, if a zoom-in operation is designated to bring about a transition of display from said first map to a third map on a larger scale including said specific part of said first map, then said creating means creates a file name of said third map by substituting a predetermined value for the value in said bit position corresponding to said level code in each of said unit codes.

8. An information processing method comprising the steps of:

creating file names which represent a map each and which are constituted each by an identification code for identifying a map structure of a given area; by a level code for denoting a scale level of the map; and by unit codes for indicating which part of said area is covered

by said map;

reading map data managed in terms of said file names created in said creating step; and

controlling display of maps based on said map data read out in said reading step.

9. A program storage medium which stores a program for causing a computer to execute the steps of:

creating file names which represent a map each and which are constituted each by an identification code for identifying a map structure of a given area; by a level code for denoting a scale level of the map; and by unit codes for indicating which part of said area is covered by said map;

reading map data managed in terms of said file names created in said creating step; and

controlling display of maps based on said map data read out in said reading step.

10. An information processing apparatus comprising:

creating means for creating data which represent maps and which are constituted by identification codes each identifying a map structure of a given area; by level codes each denoting a scale level of a map; and by unit codes for indicating which part of said area is

means creates data about said second map in a map structure different from said map structure including said first map.

14. An information processing apparatus according to claim 10, wherein said map data include header information which at least comprises a longitude and a latitude of each of four corners of the map displayed on the basis of said map data.

15. An information processing apparatus according to claim 10, wherein, if a scroll operation is designated to bring about scrolling from a first map of which display is controlled by said display controlling means, to a second map adjacent to said first map and having the same scale level as said first map, then said creating means creates data about said second map by either incrementing or decrementing by 1 a value in a bit position corresponding to said level code in each of said unit codes.

16. An information processing apparatus according to claim 10, wherein, if a zoom-out operation is designated to bring about a transition of display from a first map of which display is controlled by said display controlling means, to a second map on a smaller scale including a specific part of said first map, then said

creating means creates data about said second map by masking a value in a bit position corresponding to said level code in each of said unit codes; and wherein, if a zoom-in operation is designated to bring about a transition of display from said first map to a third map on a larger scale including said specific part of said first map, then said creating means creates data about said third map by substituting a predetermined value for the value in said bit position corresponding to said level code in each of said unit codes.

17. An information processing method comprising the steps of:

creating data which represent maps and which are constituted by identification codes each identifying a map structure of a given area; by level codes each denoting a scale level of a map; and by unit codes for indicating which part of said area is covered by each map;

reading map data managed in terms of said data created in said creating step; and

controlling display of maps based on said map data read out in said reading step.

18. A program storage medium which stores a program for causing a computer to execute the steps of:

creating data which represent maps and which are constituted by identification codes each identifying a map structure of a given area; by level codes each denoting a scale level of a map; and by unit codes for indicating which part of said area is covered by each map;

reading map data managed in terms of said data created in said creating step; and

controlling display of maps based on said map data read out in said reading step.

19. An information processing apparatus comprising:

creating means for creating file names which represent a floor map each and which are constituted each by a building identification code for identifying a building; by a floor code for identifying a floor inside said building; by a level code for denoting a scale level of said floor map depicting said floor; and by unit codes for indicating which part of said floor is covered by said floor map;

reading means for reading floor map data managed in terms of said file names created by said creating means; and

display controlling means for controlling display

of floor maps based on said floor map data read out by said reading means.

20. An information processing apparatus according to claim 19, wherein, if a display changeover is designated to bring about a transition of display from a first map of a given floor of which display is controlled by said display controlling means, to a second map of a different floor, then said creating means creates a file name of said second map by transforming only the floor code in the file name of said first map into a floor code denoting said different floor.

21. An information processing apparatus according to claim 19, wherein, if a scroll operation is designated to bring about scrolling from a first map of a given floor of which display is controlled by said display controlling means, to a second map of an adjacent part on the same floor, then said creating means creates a file name of said second map by either incrementing or decrementing by 1 a value in a bit position corresponding to said level code in each of said unit codes.

22. An information processing apparatus according to claim 19, wherein, if a zoom-out operation is designated to bring about a transition of display from a first map of a given floor of which display is controlled

by a level code for denoting a scale level of said floor map depicting said floor; and by unit codes for indicating which part of said floor is covered by said floor map;

reading floor map data managed in terms of said file names created in said creating step; and

controlling display of floor maps based on said floor map data read out in said reading step.

25. A program storage medium which stores a program for causing a computer to execute the steps of:

creating file names which represent a floor map each and which are constituted each by a building identification code for identifying a building; by a floor code for identifying a floor inside said building; by a level code for denoting a scale level of said floor map depicting said floor; and by unit codes for indicating which part of said floor is covered by said floor map;

reading floor map data managed in terms of said file names created in said creating step; and

controlling display of floor maps based on said floor map data read out in said reading step.

26. An information processing apparatus comprising:

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creating means for creating data which represent floor maps and which are constituted by building identification codes each identifying a building; by floor codes each identifying a floor inside said building; by level codes each denoting a scale level of said floor map depicting said floor; and by unit codes for indicating which part of said floor is covered by said floor map;

reading means for reading floor map data managed in terms of said data created by said creating means; and

display controlling means for controlling display of floor maps based on said floor map data read out by said reading means.

27. An information processing apparatus according to claim 26, wherein, if a display changeover is designated to bring about a transition of display from a first map of a given floor of which display is controlled by said display controlling means, to a second map of a different floor, then said creating means creates data about said second map by transforming only the floor code in the data about said first map into a floor code denoting said different floor.

28. An information processing apparatus according to claim 26, wherein, if a scroll operation is designated

to bring about scrolling from a first map of a given floor of which display is controlled by said display controlling means, to a second map of an adjacent part on the same floor, then said creating means creates data about said second map by either incrementing or decrementing by 1 a value in a bit position corresponding to said level code in each of said unit codes.

29. An information processing apparatus according to claim 26, wherein, if a zoom-out operation is designated to bring about a transition of display from a first map of a given floor of which display is controlled by said display controlling means, to a second map on a smaller scale including a specific part of said first map, then said creating means creates data about said second map by masking a value in a bit position corresponding to said level code in each of said unit codes; and wherein, if a zoom-in operation is designated to bring about a transition of display from said first map to a third map on a larger scale including said specific part of said first map, then said creating means creates data about said third map by substituting a predetermined value for the value in said bit position corresponding to said level code in each of said unit codes.

30. An information processing apparatus according

to claim 26, wherein, if an icon denoting a building displayed on a geographical map is operated on, then said creating means creates data about said icon.

31. An information processing method comprising the steps of:

creating data which represent floor maps and which are constituted by building identification codes each identifying a building; by floor codes each identifying a floor inside said building; by level codes each denoting a scale level of said floor map depicting said floor; and by unit codes for indicating which part of said floor is covered by said floor map;

reading floor map data managed in terms of said data created in said creating step; and

controlling display of floor maps based on said floor map data read out in said reading step.

32. A program storage medium which stores a program for causing a computer to execute the steps of:

creating data which represent floor maps and which are constituted by building identification codes each identifying a building; by floor codes each identifying a floor inside said building; by level codes each denoting a scale level of said floor map depicting said floor; and by unit codes for indicating which part of said floor is

covered by said floor map;

reading floor map data managed in terms of said
data created in said creating step; and

controlling display of floor maps based on said
floor map data read out in said reading step.

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